

U.S. ROUTE 78 BRIDGE (Five Mile Viaduct)
U.S. Route 78 Spanning the CSX Railroad and Meeting Street (S-39)
North Charleston
Charleston County
South Carolina

HAER NO. SC-25

HAER
SC
10-CHARN,
1-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Southeast Region
Department of the Interior
Atlanta, Georgia 30303

HISTORIC AMERICAN ENGINEERING RECORD

HAER
SC
10-CHARN
1-

U.S. ROUTE 78 BRIDGE (Five Mile Viaduct)

HAER No. SC-25

Location: Spanning the CSX Railroad and Meeting Street (S-39) on U.S. Route 78 in North Charleston, Charleston County, South Carolina.

UTM: 17.596520.3634400
Quad: Charleston, South Carolina

Date of Construction: 1926

Builder: A.R. McMurray, Knoxville, Tennessee

Present Owner: South Carolina Department of Transportation
Post Office Box 191
Columbia, South Carolina 29202

Present Use: Vehicular Bridge

Significance: The U.S. Route 78 bridge is identified as Charleston 4 in the South Carolina Department of Transportation's Non-Metal Truss Highway Bridge Inventory. This concrete T-beam bridge has a complex combination of vertical and horizontal curves. It was determined to be eligible for the National Register of Historic Places in June, 1993.

Project Information: This documentation was undertaken in February, 1998 in accordance with the Memorandum of Agreement by the South Carolina Department of Transportation, the Federal Highway Administration, the State Historic Preservation Officer, and the Advisory Council on Historic Preservation as a means to mitigate the replacement of this historic non-metal truss bridge.

Report Prepared by: Blanche S. Sproul
Environmental Manager
South Carolina Department of Transportation
P. O. Box 191
Columbia, S.C. 29202

Date: April, 1998

The U.S. Route 78 bridge is a twenty-one-span, simply supported, concrete T-beam structure that carries traffic over Meeting Street (S-39) and the CSX Railroad. Completed in 1926 by A.R. McMurray of Knoxville, Tennessee, it is located in North Charleston, South Carolina (see Location Map on page 4).

The bridge measures 744 x 27 feet (226.8 meters by 8.2 meters). The bridge was part of a statewide survey of non-metal truss highway bridges constructed before 1951. This study, conducted by Clemson University in conjunction with the South Carolina Department of Transportation, resulted in the identification of 13 non-metal truss bridges statewide with sufficient historic interest to merit nomination to the National Register of Historic Places. Out of the 545 existing concrete T-beam bridges in South Carolina, the U.S. Route 78 bridge is one of three such bridges eligible for the National Register. It is identified as Charleston 4 in the study. Although the bridge appears conventional in most respects, it has a complex combination of vertical and horizontal curves. The maximum span length is 52 feet.

A brass plate is located in the concrete rail at each end of the bridge. According to the non-metal truss bridge survey, one of the plaques states: "Five Mile Viaduct, built by Sanitary and Drainage Commission of Charleston County in Cooperation with State of South Carolina, Atlantic Coast Line Railroad and Southern Railroad System, completed April 1926; J.L. Parker, bridge engineer; W.C. Roberts, resident engineer; builder A.R. McMurray, Knoxville, TN" (Elling, Witherspoon, and Varkonda, 1993). The other plate (see photo 1) has slightly different wording and includes the names of the commissioners as well.

A newspaper article concerning the opening of the bridge appeared on page one of the April 16, 1926 issue of the *Charleston News and Courier*. According to the article, the bridge was part of a larger project, the King Street extension. This project, 3.4 miles in length, extended from the city boundary at King and Mount Pleasant streets to Cosgrove Avenue. This was the first "sheet asphalt" paving project in Charleston County. The last section of the project to open was the viaduct at "Five-mile" over the Southern Railway and Atlantic Coast Line Railroad. The Five Mile Viaduct was opened to traffic at 9:00 PM April 15, 1926.

The article extolled the smoothness of the new asphalt surface over the old Belgian block surfaces of Meeting Street on the Charleston-Columbia and Charleston-Florence highways. The opening of the new road meant "the traveler by motor can go from the Battery in Charleston to the Dorchester [County] line, at the outskirts of Summerville, on a smooth surface." No longer would motorists in and out of Charleston have to pass over "Magnolia Crossing." The new roadway was "also the county's widest paved highway, its width being twenty-seven feet."

Personnel in charge of the management of the project included Mr. E. Daniel Jervey the county highway engineer, Mr. Oliver Koslock, resident engineer for the State Highway commission, and Mr. James L. Parker oversaw the viaduct construction with Mr. W. Calvin Roberts as resident engineer. A. R. McMurry of Knoxville, Tennessee built the reinforced

concrete bridge for \$79,341.00 with cooperation from the Atlantic Coast Line and Southern railroads. S. W. Puckett of Columbia conducted the approach work for the viaduct for \$12,855.60. The Simons-Mayrant Company of Charleston provided the asphalt paving for \$160,257.01.

Two local place names were mentioned in the newspaper article. These are "Five-mile" and "Magnolia Crossing." An examination of the 7.5 minute U. S. Geological Survey *Charleston, S. C.* topographic map (photorevised 1979) shed light on these local names. This map labels the "Fivemile Viaduct" by name. It is located approximately 5.2 miles from the "Four Corners of the Law," the intersection of Meeting and Broad streets, in downtown Charleston. "Five Mile" may well represent the distance from this or some other landmark in downtown Charleston. Meeting Street, the old route replaced by the new "sheet asphalt" highway, crosses the old Atlantic Coast Line tracks near Magnolia Cemetery. This may well be "Magnolia Crossing."

Primary and Unpublished Source:

Charleston News and Courier. "King Street Highway Open All the Way," article on page 1 of the Friday Morning, April 16, 1926 issue.

South Carolina Department of Transportation. "A Study of Pre-1951 Non-Metal Truss Highway Bridges of South Carolina," prepared by Dr. Rudolf Elling, Professor Gayland B. Witherspoon, and Dr. Linda K. Varkonda, 1993.



LOCATION MAP

Bridge Removal on U. S. Rte. 78 Over CSX Railroad / Meeting St. (S-39)
Charleston County, S. C.

SCALE 0 $\frac{1}{2}$ MILE

